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MODEL 104-PWR-512A

and

104-PWR-500A

USER MANUAL

FILE: M104-PWR-5XXA.A1c

Notice

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WARNING!!

ALWAYS CONNECT AND DISCONNECT YOUR FIELD CABLING WITH THE COMPUTER POWER OFF. ALWAYS TURN COMPUTER POWER OFF BEFORE INSTALLING A BOARD. CONNECTING AND DISCONNECTING CABLES, OR INSTALLING BOARDS INTO A SYSTEM WITH THE COMPUTER OR FIELD POWER ON MAY CAUSE DAMAGE TO THE I/O BOARD AND WILL VOID ALL WARRANTIES, IMPLIED OR EXPRESSED.

Warranty

Prior to shipment, ACCES equipment is thoroughly inspected and tested to applicable specifications. However, should equipment failure occur, ACCES assures its customers that prompt service and support will be available. All equipment originally manufactured by ACCES which is found to be defective will be repaired or replaced subject to the following considerations.

Terms and Conditions

If a unit is suspected of failure, contact ACCES' Customer Service department. Be prepared to give the unit model number, serial number, and a description of the failure symptom(s). We may suggest some simple tests to confirm the failure. We will assign a Return Material Authorization (RMA) number which must appear on the outer label of the return package. All units/components should be properly packed for handling and returned with freight prepaid to the ACCES designated Service Center, and will be returned to the customer's/user's site freight prepaid and invoiced.

Coverage

First Three Years: Returned unit/part will be repaired and/or replaced at ACCES option with no charge for labor or parts not excluded by warranty. Warranty commences with equipment shipment.

Following Years: Throughout your equipment's lifetime, ACCES stands ready to provide on-site or in-plant service at reasonable rates similar to those of other manufacturers in the industry.

Equipment Not Manufactured by ACCES

Equipment provided but not manufactured by ACCES is warranted and will be repaired according to the terms and conditions of the respective equipment manufacturer's warranty.

General

Under this Warranty, liability of ACCES is limited to replacing, repairing or issuing credit (at ACCES discretion) for any products which are proved to be defective during the warranty period. In no case is ACCES liable for consequential or special damage arriving from use or misuse of our product. The customer is responsible for all charges caused by modifications or additions to ACCES equipment not approved in writing by ACCES or, if in ACCES opinion the equipment has been subjected to abnormal use. "Abnormal use" for purposes of this warranty is defined as any use to which the equipment is exposed other than that use specified or intended as evidenced by purchase or sales representation. Other than the above, no other warranty, expressed or implied, shall apply to any and all such equipment furnished or sold by ACCES.

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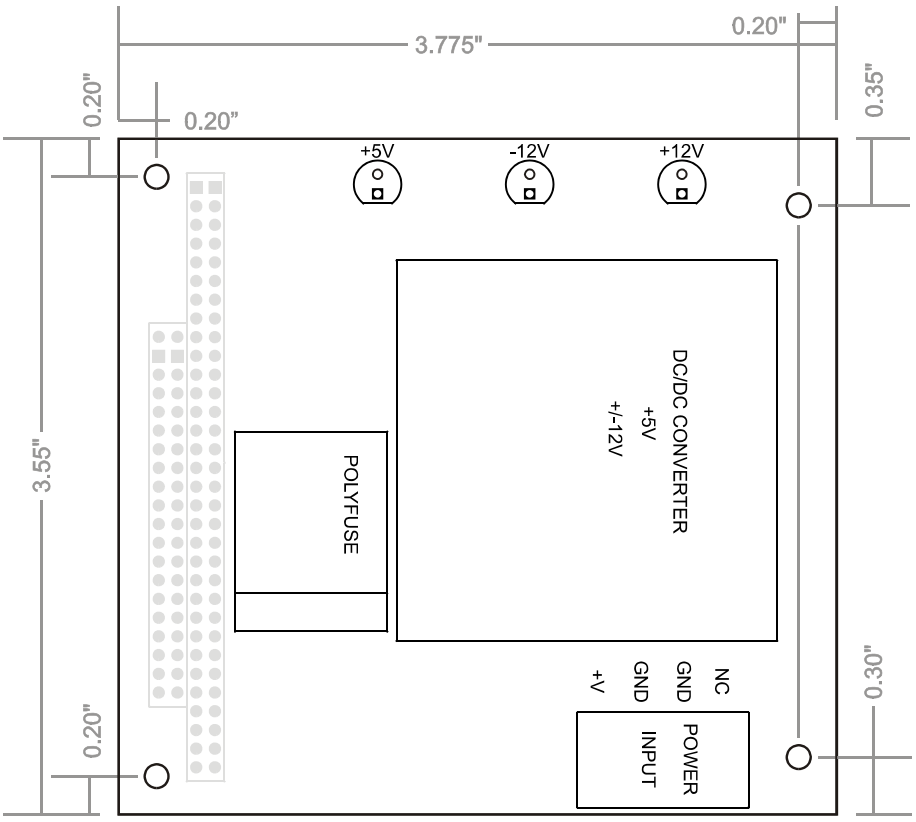
Chapter 1: INTRODUCTION

This power supply is designed to provide power to the PC/104 stack via a 16-bit pass through PC/104 connector. Power supply comes in several different input power options and is connected via a Molex type connector. The outputs can be a single supply with +5 VDC or a tipple output supply with +/- 12 VDC and +5 VDC. Voltage status LEDs make it easy to verify the outputs are all operating

The unit weighs 3 oz. and is dimensioned below in the drawing, conforming to the PC/104 standard..

Input Power

The input power to this supply can be either +12 VDC (9 - 18 VDC), +24 VDC (18 - 36 VDC), or +48 VDC (36 - 75 VDC) as factory set options. Power is connected via the Four-pin standard Molex type connector at the edge of the board. It is the same type of connector as used on a CD-ROM or hard drives.



Pin	Signal
4	No Connection
3	Ground
2	Ground
1	+Voltage

Table 1-1: Input Connection

Figure 1-1: 104-PWR-5XX Board Layout

Output Power

Output Power is supplied directly to the 16-bit pass through PC/104 connectors J1. The outputs are protected to keep either over voltage or short circuit conditions from damaging the board.

Signal	Connector	Pin
+5VDC	J1	B3
+5VDC	J1	B29
+5VDC	J1	D16
+12VDC*	J1	B9
-12VDC*	J1	B7
Gnd	J1	B1
Gnd	J1	B10

Signal	Connector	Pin
Gnd	J1	B31
Gnd	J1	B32
Gnd	J1	A32
Gnd	J1	C0
Gnd	J1	D0
Gnd	J1	D18
Gnd	J1	D19

***104-PWR-512 Only**

Table 1-2: Power Output Connections

Max Output Current in Amps

	Input Voltage Triple Output*			Input Voltage Single Output		
Output Voltage	12VDC	24VDC	48VDC	12VDC	24VDC	48VDC
5VDC	5	6	6	6	8	8
12VDC	.800	1	1	N/A	N/A	N/A
-12VDC	-.800	-1	-1	N/A	N/A	N/A

***Total Power may not exceed 40 Watts for the 24 and 48 VDC Input models and 30W the 12 VDC Model**

Table 1-3: Output Current

Load Requirements

The triple output power supply requires a minimum load to operate. The PC/104 stack must have a current draw of at least 500mA from the +5VDC, and +/-100mA from the +/-12VDC.

The single output P5 does not require a minimum load.

Status LEDs

Three Voltage status LEDs are present on the board to indicate the presence of each output voltages. The LED representations are:

RED + 5 Volts
GREEN +12 Volts
YELLOW -12 Volts

Heatsinking

Heat is always a factor to consider in any system design project. The DC to DC converter can be populated on either side of this board which facilitates Heatsinking to the end plate of our E-box enclosure. The system CPU can then Heatsink to the other end of the enclosure.

To specify your order with the DC-DC populated on the bottom of the board add the suffix "-R" to the part number. This is as a no-cost option and is required when using this power supply in our E-box enclosure.

When not using these in our enclosure both the single output version and the triple output version can be ordered with or without a Heatsink. To specify your order with the heatsink add the suffix “-HS”to the part number. This is as an extra-cost option.

Always make sure to have a proper fit with full contact between the DC-DC converter surface and the plate (Heatsink) to which it will be mounted. A thin layer of thermal paste (E.G.: Chemtronics Silicone Heatsink Compound No.SL1) helps to ensure proper heat conduction.

Specifications

OUTPUT CHARACTERISTICS	**Typical**			**Unit/Comments**
Output Voltage Set Point on 5V	**±1%**			Factory set
Output Voltage Set Point on ±12V	**±5%**			Factory set
Ripple/Noise on 5V	**1%**			P-P measured at 20 MHz bandwidth
Ripple/Noise on ±12V	**1%**			P-P measured at 20 MHz bandwidth
Input Voltage	**12**	**24**	**48**	VDC
Current +5 VDC	6	8	8	A / 104-PWR-500A(+5VDC **Only**)
Current +5 VDC	5	5	5	mA / 104-PWR-512A
Current +12 VDC	210	650	650	mA / 104-PWR-512A
Current -12 VDC	-210	-650	-650	mA / 104-PWR-512A
Short Circuit Protection	**Indefinite, Automatic Recovery**			Continuous
Overvoltage Protection	**135%**			Clamp type

Table 1-4: Output Characteristics

	Model			
INPUT CHARACTERISTICS	**12**	**24**	**48**	**Unit / Comments**
Input Voltage	9-18	18-36	36-75	VDC
Under Voltage Shut Down	8	16	30	VDC (min)
Over Voltage Shut Down	25	45	80	VDC (max)
Minimum Input Current	660	330	185	mA
Full Load Input Current	3.541	2.00	0.992	A (Max)
Efficiency by Model	80	83	85	% (typ)
Switching Frequency	360 to 440			KHz; Factory set
Operating Temperature	-40 to +50			°C, up to 105°C with derating of 1.3% per °C (no air flow)
Storage Temperature	-55 to +125			°C
Relative Humidity	5 to 95			%, non-condensing

Table 1-5: Input Characteristics

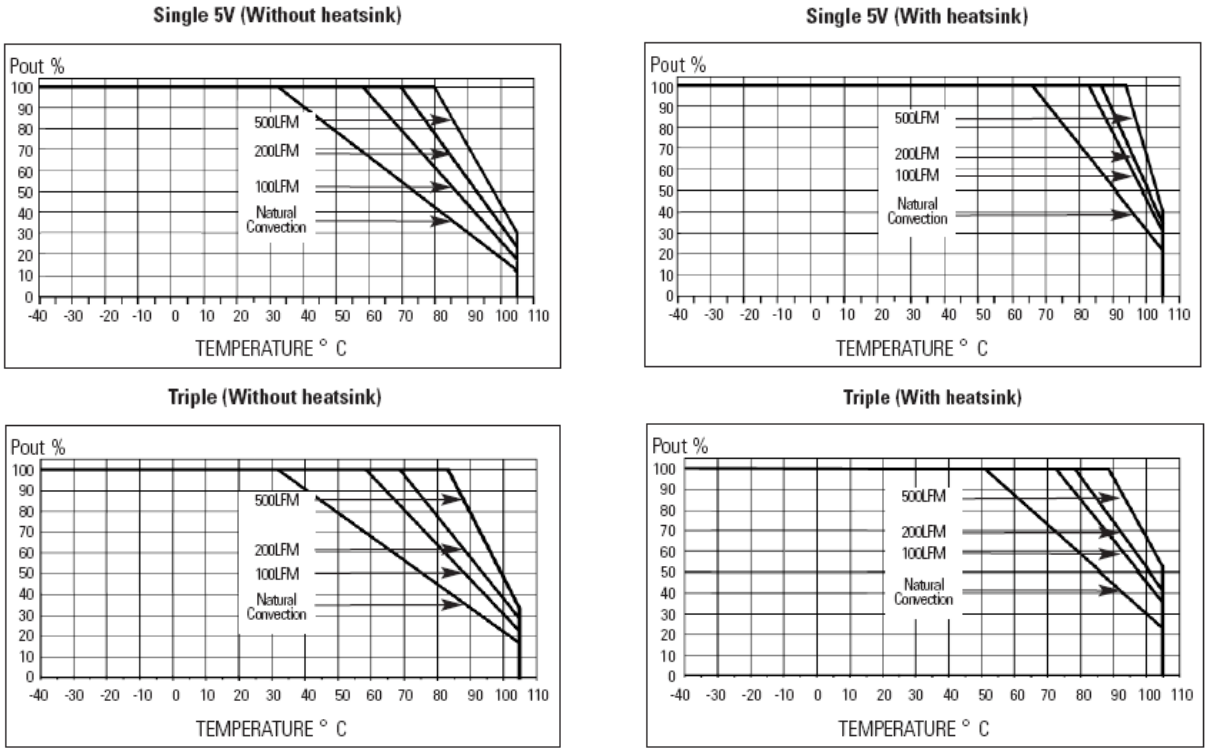


Figure 1-2: Efficiency Derating over Temperature Range

Ordering information:

104-PWR-500A-12 +5VDC Output Supply with a 12V input (9 - 18 VDC)
104-PWR-500A-24 +5VDC Output Supply with a 24V input (18 - 36 VDC)
104-PWR-500A-48 +5VDC Output Supply with a 48V input (36 - 75 VDC)

104-PWR-512A-12 Triple Output Supply with a 12V input (9 - 18 VDC)
104-PWR-512A-24 Triple Output Supply with a 24V input (18 - 36 VDC)
104-PWR-512A-48 Triple Output Supply with a 48V input (36 - 75 VDC)

Specify “-HS” to include heatsink as an extra-cost option.
Example: 104-PWR-512A-12-HS

Specify “-R” for population of DC/DC converter on reverse side.
Example: 104-PWR-512A-24-R”

Customer Comments

If you experience any problems with this manual or just want to give us some feedback, please email us at: ***manuals@accesio.com.***. Please detail any errors you find and include your mailing address so that we can send you any manual updates.

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